AUTHOR INDEX OF PAPERS PUBLISHED IN VOLUME 58 OF THE JOURNAL AND OF ABSTRACTS OF PAPERS PRESENTED AT THE ANNUAL MEETING, THE SOUTHERN DIVISIONAL MEETING, AND THE NORTHEAST DIVISIONAL MEETING OF THE AMERICAN DAIRY SCIENCE ASSOCIATION.

A

Abilay, J. P., 134[S]
Abilay, T. A., 1836
Abraham, S., 1799
Abrams, R. M., 709, 1528
Achacoso, A. S., 742*
Adams, D. M., 828
Adams, G. D., 133[S]
Adams, G. H., 386
Adams, R. S., 1538
Adkinson, R. W., 140[S]
Ahmed, A., 133[S]
Ahrens, R. J., 135[S], 141[S]
Aitchison, T. E., 745*
Akinyele, I. O., 741*, 917
Alais, C., 293
Albright, J. L., 749*, 1531
Allaire, F. R., 780*
Allen, C., 1609
Allen, M., 150[S]
Almquist, J. O., 416, 420
Al-Obaidi, S., 769*
Al-Shabibi, M. M. A., 791*
Amir, S., 1476
Ammerman, C. B., 1561
Amundson, C. H., 790*
Anderson, B. A., 25
Anderson, D. G., 786*
Anderson, M., 1442
Anderson, M. E., 797*
Anderson, M. J., 72, 748*, 1856
Anderson, R. R., 801*, 802*, 1449
Anderson, R. W., 754*
Andrus, D. F., 1876
Anthony, H. D., 766*
Anthony, W. B., 149[S]
Apgar, W. P., 1239[n]
Appleman, R. D., 447, 753*
Arapis, S. C., 1242[n]
Arave, C. W., 181, 423, 761*, 777*
Argoudelis, C. J., 791*
Arnold, B. L., 143[S], 144[S], 1367
Arnold, R. G., 1095, 1127, 1922
Arora, S. K., 1347
Asher, Y. A., 137[S]
Autrey, K. M., 67, 148[S]

B

Babel, F. J., 1612
Bachman, K. C., 140[S], 789*, 1109
Baile, C. A., 349, 515
Bakel, J. T., 793*, 1794
Baldwin, R. L., 337, 502, 861, 879, 1033
Barach, J. T., 828
Barbano, D. M., 1
Bargeloh, J. F., 1701
Barker, B. O., 724, 749*, 776*
Barnes, M. A., 1246[n], 1247[n]
Barr, G. W., 746*, 1308
Barr, H. L., 246
Barrington, G. P., 747*
Bartley, E. E., 746*, 762*, 766*, 767*, 777*, 778*, 1308
Bartsch, B. D., 759*
Bassette, R., 428, 788*
Bath, D. L., 226
Batra, T. R., 751*
Battista, W. J., 753*
Bauman, D. E., 740*, 801*, 1524
Baumgardt, B. R., 758*
Baumrucker, C. R., 1282
Baxter, D. O., 145[S]
Baxter, H. D., 142[S], 147[S], 757*
Bayer, R. C., 1239[n]
Bean, B., 1245[n]
Bearden, B. J., 148[S]
Beardsley, G. L., 196, 758*, 1360
Beatty, J. F., 138[S], 143[S], 144[S], 1367
Bechtle, R. M., 746*, 762*
Becker, B. A., 1677
Becker, R. B., 141[S]
Beckett, D., 795*
Behboodi, M., 784*
Bell, B. R., 773*
Bell, L. I., 789*
Bell, M. C., 144[S]
Belyea, R. L., 1328, 1336
Berglund, N. A., 1245[n], 1247[n]
Bergman, E. N., 1246[n]
Berlin, E., 25
Bernhard, R. A., 319
Bernstein, B. A., 790*
Biasotto, N. O., 1238[n]
Bibb, T. L., 853
Biede, S. L., 787*
Bingham, E. W., 13
Black, A. L., 362
Blackwell, J. H., 784*
Blaisdell, F. S., 745*
Blake, J. T., 775*, 776*
Blankenship, L. T., 138[S], 139[S]
Blazak, W. F., 756*
Bloomfield, V. A., 592
Bodine, A. B., 133[S], 137[S], 145[S]
Bodoh, G. W., 753*
Boman, R. L., 748*, 757*
Bonner, J. M., 56
Bothast, R. J., 386
Botts, R. L., 141[S]
Bouchard, R., 742*, 762*
Boyd, L. J., 767*
Bradley, R. L., Jr., 785*, 1782
Brannon, C. C., 901
Branton, C., 93, 143[S]
Bray, A. P., 1239[n]
Bray, D. R., 1828
Breslau, B. R., 782*
Briggs, G. M., 1751
Britt, D. G., 532, 1666
Britt, J. H., 266, 760*
Brooker, B. E., 1442
Brown, B. L., 41
Brown, C. A., 779*
Brown, C. M., 749*
Brown, R. J., 796*
Brown, W. H., 134[S], 136[S], 739*, 751*, 763*
Bruhn, J. C., 788*
Brunner, J. R., 313
Bryan, T. A., 1239[n], 1240[n]
Bryant, M. P., 1645
Buchanan-Smith, J. G., 672
Bucholtz, H. F., 757*
Buckalew, J. M., 759*
Buesnel, R. J., 749*
Buffington, R. E., 141[S]
Bugden, G., 749*
Burdick, D., 146[S]
Burnside, E. B., 109, 753*, 1078
Burroughs, W., 611
Bush, L. J., 133[S]
Button, F. S., 144[S], 750*
Byrne, J. J., 703
Byrne, W. F., 147[S], 931

*Abstracts presented at the Annual Meeting of ADSA.

[S]Abstracts presented at the Southern Divisional Meeting of ADSA.

[n]Abstracts presented at the Northeast Divisional Meeting of ADSA.

C

Calub, A. D., 149[S]
Camoens, J. K., 755*
Campbell, J. R., 1677
Campbell, T. C., 1789
Campbell, T. W., 762*
Cannon, R. Y., 785*
Cardwell, J. T., 137[S]
Carlson, M. E., 521
Carstairs, J. A., 750*
Carter, R. E., 1245[n], 1247[n]
Cerbulis, J., 817
Chakriyarat, S., 140[S]
Chalupa, W., 1198
Chambers, J. V., 765*
Chandler, P. T., 139[S], 239, 397, 404, 682, 779*, 1660
Chang, J., 1365
Chapin, L. E., 739*
Charoen, C., 797*
Chase, L. E., 748*, 776*
Chawan, C. B., 1239[n]
Chen, W. L., 785*
Chenault, J. R., 709, 1528
Cheng, W. S., 800*
Cheryan, M., 477, 651
Chik, A. B., 742*
Chowning, D. L., 144[S]
Chrisope, G. L., 794*
Christensen, E., 755*
Chung, B. H., 785*
Clancy, M., 758*
Clark, D., 760*
Clark, J. H., 745*, 801*, 907, 1178, 1808
Clay, A. B., 778*
Clifton, C. M., 137[S]
Coccodrilli, G. D., Jr., 164
Cole, T., 755*
Collier, R. J., 740*, 770*, 1524
Collins, J. A., 784*, 788*
Collins, J. L., 749*
Colvin, H. W., Jr., 758*
Conrad, H. R., 746*, 747*, 749*, 1701
Conrad, L. M., III, 752*
Convey, E. M., 703
Cook, R. M., 763*, 764*, 765*
Coppock, C. E., 127, 1328, 1336, 1708, 1902
Coughlin, J. R., 169
Coulter, G. H., 82
Covacevich, H. R., 793*
Crandall, B. H., 230
Crawford, F. M., 137[S]
Creamer, L. K., 287, 798*
Crooker, B. A., 1240[n]
Croom, W. J., 740*, 907
Cross, R. A., 782*
Crowley, J. W., 771*
Cummings, K. R., 134[S], 143[S]
Custer, E. W., 134[S], 136[S], 139[S], 144[S], 751*

D

Daboll, B. S., 763*
Dairiki, T., 1249, 1254
Damon, R. A., 1245[n], 1246[n]
Daniel, J. W., 138[S], 143[S]
Daniels, L. B., 743*
Daniels, J. W., 144[S]
Das, B., 1347
Davenport, D. G., 147[S], 747*
Davidovich, A., 746*, 767*
Davis, A. V., 136[S]
Davis, C. L., 49, 801*, 1808
Davis, G. V., 1301
Davis, J. W., 136[S]
Davis, W. T., 1822
Dayton, A. D., 762*
Deane, D. D., 792*
DeBeukelar, N. J., 785*
Delouis, C., 140[S]
Dennis, R. J., 148[S]
Derbyshire, J. C., 1695
Derrig, R. G., 1808
Detering, C. N., 764*, 765*
Deyoe, C. W., 746*
Dickey, H. C., 1239[n]
Dickey, J. F., 138[S], 139[S]
Dickinson, F. N., 116, 233, 551, 771*, 772*, 1501, 1723
Dickson, D. P., 781*
Digesti, R. D., 758*
Dill, C. W., 136[S], 137[S], 1519
Dimick, P. S., 789*, 798*
Dinesen, N., 795*
Dingley, P. Y., 1240[n]
Djiane, J., 140[S]
Dolan, E. T., 792*
Dooley, J. G., 795*
Dowlen, H. H., 147[S]
Dunkley, W. L., 791*, 839
Dwivedi, B. K., 1127

E

Eberhart, R. J., 1492
Eden, A., 749*
Edgerly, C. G. M., 781*
Efstathiou, J. D., 786*
Ehlers, M. H., 754*
Eigel, W. N., 306
Eldridge, F. E., 756*
Ellers, J. C., 143[S]
Ellicott, A. R., 138[S], 139[S]
Ellis, R., 1437
El-Negoumy, A. M., 790*
Emery, R. S., 750*
Emmons, D. B., 795*, 797*
Enlow, C. M., 750*
Erb, R. E., 34, 41, 127, 181
Ernstrom, C. A., 797*, 1008
Erwin, R. E., 9
Evans, D. L., 143[S], 742*
Evans, E., 672
Evans, J. L., 750*
Everett, R. W., 718, 774*, 1717, 1828

F

Fairbank, W. C., 752*
Fairchild, T. P., 540
Farmer, R. E., 787*
Farrell, H. M., Jr., 817
Fenner, H., 1246[n]
Ferguson, L. C., 775*
Ferrier, L. K., 19
Fina, L. R., 766*, 767*
Finner, M. F., 771*
Fisher, L. J., 696
Flores, J. R., 133[S]
Foote, R. H., 82, 248, 718, 1713
Fosgate, O. T., 142[S], 901
Fox, C. W., 794*
Francis, O. J., 1789
Franke, A. A., 788*, 791*
Freeman, A. E., 772*, 1063
Freeman, M. G., 109
Freeman, R. E., 134[S]
Frias, E. C., 755*
Fries, G. F., 763*, 764*, 765*, 947
Frobish, R. A., 801*
Fulton, L. A., 744*, 1243[n]
Fuquay, J. W., 136[S], 138[S], 139[S], 739*, 751*, 1367

G

Galal, M. K., 138[S]
Gardner, D. L., 1240[n]
Gardner, R. A., 760*, 777*
Gardner, R. W., 760*, 777*
Garverick, H. A., 760*
Gaunt, S. N., 1245[n]
Gaunya, W. S., 1245[n], 1247[n]
Gebert, J. R., 741*
Gelda, C. S., 800*
Gentry, R. P., 78, 750*
Gholson, J. H., 136[S]
Gibbs, H. C., 1247[n]
Gill, G. S., 780*
Gillis, W., 136[S]
Gilson, W. D., 756*
Glass, L., 1536
Goering, H. K., 759*, 1244[n]
Gomila, L., 134[S], 138[S]
Gonzalez, O. G., 404
Goodling, A. C., 136[S]
Goodnight, K. C., 800*
Gordon, C. H., 922, 1688
Gordon, W. G., 301, 574
Gough, R. H., 136[S]
Goulet, J., 782*
Grabarek, S. L., 1245[n]
Graf, G. C., 1245[n]
Graves, C. N., 768*
Greenbacker, D. A., 1245[n]
Greenberg, B., 301

Gregory, J. F., 558, 1263
Gregory, M. E., 783*
Grieve, C. M., 410
Griffel, G. W., 746*
Grosvenor, C. E., 1803
Groves, M. L., 301, 574
Guidry, A. J., 1242[n], 1243[n], 1244[n]
Guy, E. J., 432
Gwazdauskas, F. C., 88, 140[s], 776*

H

Hacker, R. R., 751*, 753*
Haenlein, G. F. W., 102, 756*
Hahn, L., 777*
Hale, W. H., 741*
Halevi, A., 1476
Hall, J. R., 743*
Hall, R. F., 147[s]
Hamada, T., 1352
Hammond, E. G., 645, 787*, 1365, 1630
Hampton, D. L., 750*
Hankinson, D. J., 326
Hansel, W., 769*, 1708
Hansen, A. P., 790*, 793*, 799*
Hansen, P. M. T., 798*
Hardin, N., 1789
Hargrove, G. L., 545
Harper, W. J., 799*
Harpster, H. W., 1243[n]
Harrington, R. B., 181
Harris, R. A., 1367
Harrison, D. S., 760*
Harshbarger, K. E., 741*, 907
Hartman, G. H., Jr., 800*
Hatfield, E. E., 386
Hatton, R. H., 144[s], 750*
Hawkins, G. E., 149[s], 757*
Hayes, J. R., 1789
Hays, R. L., 740*, 1524
Head, H. H., 140[s], 870
Heald, C. W., 739*, 853
Hedrick, T. I., 175, 1536
Hegarty, H. M., 159
Heitmann, R. N., 1246[n]
Hemken, R. W., 141[s], 144[s], 148[s], 750*, 752*, 779*
Henderson, C. R., 774*, 1727, 1731, 1910, 1917
Henderson, H. E., 748*
Henschel, H. L., 741*
Herlick, S. A., 136[s], 137[s], 1519
Herman, D. L., 134[s]
Hess, G. S., 56, 141[s], 779*
Hibbs, J. W., 746*, 1701
Hickman, C. G., 754*
Hicks, C. L., 19, 796*
High, J. W., Jr., 148[s]
Hill, R. M., 792*
Hinds, F. C., 1645
Hines, H. C., 756*
Hirschl, R., 793*
Hogan, J. P., 1164
Holleman, D. F., 1814
Holliday, E. R., 138[s], 139[s]
Hollon, B. F., 93, 145[s], 147[s]
Holman, J. R., 261
Holmes, C. R., 142[s]
Holmes, J. F., 133[s], 138[s]
Holter, J. B., 392, 1865
Hooven, N. W., Jr., 1242[n], 1695
Hoover, M. W., 793*
Hoover, W. H., 1240[n], 1241[n]
Horn, L. H., 146[s]
Horst, R. L., 740*, 770*
Houghton, G., 1288
Hourigan, J. A., 1144
Howard, W. T., 217, 221
Howe, J. E., 853
Huang, H. T., 795*
Huang, M. D., 1899
Huang, Y. W., 797*
Huber, J. T., 441, 532, 748*, 757*, 1666
Hudson, S., 30
Huff, J. F., 799*
Huffman, D. C., 149[s]
Hurley, M. J., 41
Hurnik, J. F., 780*
Hutjens, M. F., 779*, 781*
Hyslop, D. B., 795*

I

Ingalls, W., 767*
Irvine, D. M., 795*
Irving, H. A., 764*
Isaacson, H. R., 1645
Ivan, M., 410
Iwasaki, T., 963
Iwen, M., 775*

J

Jackson, E. D., 1907
Jacobson, D. R., 149[s], 371, 750*
Jacobson, N. L., 430
Jahn, E., 682, 1660
Jaleel, M. A., 766*
Janecke, J. G., 742*
Janolino, V. G., 796*
Janzen, J. J., 137[s], 145[s]
Jaquith, J. B., 753*
Jauregui-Adell, J., 835
Jenness, R., 301
Jenny, B. F., 143[s], 512
Jensen, S., 783*
Joe, A. M., 791*
Johannes, R. F., 747*
Johns, W., III, 392, 1865
Johnson, D. G., 742*
Johnson, H. D., 507, 777*, 1836
Johnson, J. C., Jr., 1672
Johnson, L. L., 1240[n]
Johnson, L. P., 772*
Jolly, R. C., 846, 1272
Jones, G. M., 689
Jones, V. A., 799*
Jones-Witters, P., 41
Joo, P. K., 1246[n]
Jorgensen, N. A., 740*, 747*, 759*, 770*, 771*
Josephson, R. V., 1521
Juffs, H. S., 1612

K

Kahler, L. W., 771*
Kalab, M., 797*
Kale, C. G., 1008
Kalra, P. S., 709
Kann, G., 140[s]
Keenan, T. W., 1282
Kehagias, C., 798*
Kelley, L. M., 784*
Kellogg, D. W., 802*
Kelly, D. G., 136[s]
Kelly, J. W., 261
Kelso, B. F., 754*
Kemp, K. E., 1374
Kennedy, B. W., 1507, 1871
Kensett, B., 689
Kepler, R. W., 521
Kesler, E. M., 759*, 1492
Keys, J. E., 744*
Keys, J. E., Jr., 922, 1242[n], 1695
Kiddy, C. A., 776*, 1501
Kilara, A., 668, 789*, 791*, 792*
Kilcullen, B. M., 782*
Kilgour, R., 1531
Kim, C. W., 750*
Kincaid, R. L., 750*
King, G. J., 780*
Kinsella, J. E., 1288
Kirk, J. R., 175
Knauer, M. W., 1449
Knight, W. E., 146[s]
Knowlton, P. H., 1241[n]
Koger, M., 145[s]
Kontson, A., 1433
Koonce, K. L., 149[s]
Korycka-Dahl, M., 796*
Kosikowski, F. V., 792*, 793*, 846, 963, 994, 1272
Kratz, J. L., 141[s]
Krause, G. F., 760*
Kristoffersen, T., 786*
Kucker, W. L., 1083
Kulasek, G. W., 748*
Kulkarni, S. M., 1095, 1922
Kurtz, F. E., 1433
Kuzuya, Y., 789*

L

LaCroix, D. E., 1437
Lake, G. B., 1336
Lalonde, C. M., 1243[n]
Lamb, R. C., 72, 423, 724, 748*, 749*, 761*, 775*, 776*, 777*

Lammond, E., 795*
Lancaster, E. B., 386
Lane, G. T., 135[S], 141[S], 761*, 762*
Lang, R. L., 521
Langlois, B. E., 144[S], 785*
Large, P. M., 799*
Larsen, H. J., 747*
Larson, B. L., 159
Larson, L. L., 769*, 771*
Lee, A. J., 767*
Lee, D. D., 777*, 778*
Lee, D. D., Jr., 746*
Lee, D. N., 658, 1423
Lee, E. C., 473, 1123
Lee, I., 319
Leffel, E. C., 1899
Legates, J. E., 545
Leidy, R. B., 563
Leighton, R. E., 761*, 762*
Leonard, H. A., 1240[n]
Lessard, J. R., 696
Libby, D. W., 1241[n]
Lichtenwalner, R. E., 135[S], 141[S], 762*
Lin, A. Y., 790*
Lin, J.-H., 789*
Lin, R. H., 135[S]
Lindahl, I. L., 759*
Lindamood, J. B., 783*
Lineweaver, J. A., 256, 780*
Lippke, H., 1860
Li Pun, H. H., 745*, 778*
Lira, M., 770*
Little, J. A., 67, 148[S]
Lodge, G. A., 696
Lodge, J. R., 769*, 770*
Loewenstein, M., 137[S], 138[S], 799*
Long, T. A., 1243[n]
Longnecker, J. V., 1246[n], 1247[n]
Louis, S., 1033
Louis, S. L., 502, 861
Ludens, F. C., 758*, 1360
Ludwick, T. M., 756*
Luick, J. R., 1814
Lund, D. B., 795*
Lunsford, T. A., 799*
Luthra, Y. P., 1347
Lyke, W. A., 147[S], 526, 775*, 931
Lynch, G. P., 1241[n], 1688, 1907

M

Macgregor, C. A., 761*
MacLeod, G. K., 672
Madan, M., 1836
Maddux, J. N., 143[S]
Mahoney, R. R., 1620
Malik, A. C., 795*
Malven, P. V., 181
Mangino, M. E., 313
Maniere, F. Y., 789*
Manosalvas, L. W., 759*
Mao, I. L., 773*
Maplesden, D. C., 1822
Marquardt, J. P., 740*, 770*
Marrow, G. S., 764*, 947
Marsh, P. B., 1241[n]
Marshall, R. T., 794*, 797*, 1449
Marshall, S. P., 133[S], 141[S], 891, 896, 1101, 1109, 1320
Marth, E. H., 471, 785*
Martin, F. G., 141[S]
Martin, J. E., 239
Martz, F. A., 763*, 1677
Marx, G. D., 740*, 744*, 761*
Marx, S. M., 793*
Mason, L., 150[S]
Matsoukas, J., 540
Matthews, C. A., 1453
Matuszczak, R. L., 1713
Maubois, J. L., 1001
Maurer, L., 645, 1630
Maurya, S. N., 768*
Maxcy, R. B., 1095, 1922
McCarthy, R. D., 164, 971
McCarty, K. S., 1022
McCarty, K. S., Jr., 1022
McCaskey, T. A., 67, 148[S], 149[S], 766*
McCormick, W. C., 1672
McCoy, G. C., 746*, 747*, 762*, 778*
McCullough, M. E., 145[S]
McDaniel, B. T., 116, 773*
McDonough, F. E., 1688
McDowell, R. E., 755*, 1453
McGee, W. H., 138[S], 139[S], 144[S], 1367
McGill, L. D., 761*
McGilliard, A. D., 745*, 1294
McGilliard, L. D., 1876
McKay, L. L., 482, 786*
McLaughlin, C. L., 349
McMurtry, J. P., 181
McNeill, W. W., 755*
McQueen, R., 1482
Mead, R. J., Jr., 592
Mehran, M., 784*
Mehta, R. S., 788*
Mellenberger, R. W., 760*
Melo, T. S., 799*
Mena, F., 1803
Menear, J. R., 1695
Menefee, B. E., 767*
Meno, J. J., 778*
Menz, W. W., 783*
Merilan, C. P., 768*
Merricks, D. L., 779*, 1238[n]
Merrill, W. G., 1328
Merson, R. L., 658, 1423
Mertens, D. R., 611, 744*, 745*
Meyer, R. M., 1308
Mickelsen, C. H., 72, 748*, 749*, 776*
Mickelsen, R., 311
Mickle, J. B., 782*
Mikolajcik, E. M., 786*
Miller, C. N., 682, 778*, 1660
Miller, D. D., 802*
Miller, J. K., 144[S], 147[S], 526, 775*, 931, 1578
Miller, S. M., 1561
Miller, R. H., 423, 751*, 1501
Miller, W. J., 78, 750*, 1549, 1767
Mochrie, R. D., 140[S]
Mocquot, G., 1001
Modler, H. W., 797*
Moe, P. W., 602, 1151
Mollett, T. A., 34
Monk, E. L., 34
Monson, W. G., 146[S]
Montgomery, C. J., 143[S]
Montgomery, C. R., 150[S]
Montgomery, M. J., 142[S], 145[S], 147[S], 148[S], 757*
Moon, N. J., 787*
Moore, C. L., 1531
Moore, E. D., 147[S], 751*
Moore, E. E., 658
Moore, R. B., 134[S]
Morr, C. V., 977, 1794
Morris, C. A., 780*
Morris, H. A., 1794
Morrow, D. A., 750*
Moss, B. R., 526, 1682
Moxley, J. E., 1507, 1871
Moxon, A. L., 749*
Muller, L. D., 190, 957, 1360, 1841, 1847
Mullord, M., 30, 1531
Murphy, M. F., 839
Musgrave, S. D., 1239[n], 1240[n]

N

Nagaraja, T. G., 766*, 767*
Natzke, R. P., 1822, 1828
Neathery, M. W., 78, 750*, 1767
Nelson, B. D., 150[S]
Nelson, D. K., 430, 611
Nelson, F. E., 784*
Nelson, J. H., 1739
Neumark, H., 1476
Newbould, F. H. S., 751*
Nickerson, S. C., 739*
Nickerson, T. A., 169, 319, 790*, 1620
Nicolai, J. H., 144[S]
Nicolai, J. H., Jr., 144[S]
Niedermeier, R. P., 747*
Nilson, K. M., 668
Nold, K. M., 779*
Noller, C. H., 1902
Nonnecke, B. J., 751*
Norman, H. D., 116, 551, 771*, 772*, 1723

O

O'Brien, T., 770*
O'Dell, G. D., 133[S], 143[S], 901
O'Keeffe, M. G., 783*
Olaloku, E. A., 145[S]
Olayiwole, M. B., 148[S]
Ologun, G. A., 145[S]
Olsen, J. D., 775*, 776*
Olson, H. H., 747*, 762*
Olson, K. E., 759*, 772*
Olson, N. F., 19, 477, 494, 651, 1015, 1117
Oltenacu, E. B., 1713
O'Meara, D. C., 1240[n]
Otchere, E. O., 56
Otterby, D. E., 742*, 744*
Owen, F. G., 447, 761*
Owen, J. R., 142[S], 145[S], 147[S], 751*, 757*
Owens, F. N., 1645

P

Paape, M. J., 776*, 1242[n], 1243[n], 1244[n]
Pankey, J. W., Jr., 202, 205, 209
Pardue, F. E., 901
Park, Y., 786*
Parks, O. W., 1609
Parsons, G. S., 747*
Parsons, J. G., 789*
Patel, A., 137[S], 799*
Patrick, P. S., 796*
Patrick, T. E., 784*, 788*
Patton, R. S., 397, 404
Patton, S., 560, 971
Payne, E., 30
Peaker, M., 1042
Pearson, R. E., 744*, 1242[n], 1243[n], 1244[n]
Pennington, J. A., 49, 770*
Peppler, H. J., 795*
Pereira, J. L., 754*
Perry, T. W., 566
Peterson, R. F., 301
Phillips, M. C., 1751
Phillips, R., 41
Philpot, W. N., 202, 205, 209, 1822
Poe, W. E., 739*, 751*
Poffenbarger, J. I., 739*
Pogue, D. E., 138[S]
Polan, C. E., 512, 778*, 1789
Polzin, H. W., 742*, 744*
Porter, R. M., 747*
Porubcan, R. S., 787*
Powell, R. L., 551, 771*, 772*, 1723
Prewitt, L. R., 763*, 764*, 765*, 766*
Priest, P. N., 1531

R

Radcliffe, J. D., 759*
Rader, E. R., 756*
Radloff, H. D., 149[S], 741*
Radostits, O. M., 464
Radwanski, F. R., 767*
Rakes, A. H., 147[S], 747*
Rakes, J. M., 755*
Ramsey, H. A., 436, 741*
Rand, A. G., Jr., 1144
Randel, P. F., 1101, 1109, 1320
Randolph, H. E., 9, 135[S], 306
Randy, H. A., Jr., 1245[n]
Rao, D. R., 159
Rao, G. A., 1799
Raphael, B. C., 971
Rasmussen, F., 938
Ray, B. W., 782*
Reddy, G. V., 787*
Reddy, M. B., 799*
Redel, L. E., 782*
Reichl, J. R., 879
Reinbold, G. W., 645, 787*, 1365, 1630
Reineke, E. P., 703
Reiser, B., 795*
Rendos, J. J., 1492
Reulein, S. S., Jr., 1246[n]
Reyes, J., 797*
Rhynes, W. E., 1242[n]
Richardson, G. H., 785*, 798*
Richardson, T., 19, 477, 651, 790*, 796*, 1117, 1782
Richert, S. H., 985, 1794
Ricketts, R. E., 760*
Riesen, J. W., 1246[n], 1247[n]
Rindsig, R. B., 741*, 742*, 743*
Rizvi, S. S. H., 1521
Robertson, H. A., 780*
Robles, A. Y., 763*
Rodewald, R. G., 770*
Rodriguez, D., 190, 1841, 1847
Roettger, L. W., 767*
Roffler, R. E., 1219, 1880, 1889
Rogers, A. L., 532
Roh, J. K., 1782
Roman-Ponce, H., 1109, 1320
Rook, J. A., 758*
Rooney, L. W., 762*
Rough, D. K., 1688
Rouhbakhsh-Kh, A., 784*
Roussel, J. D., 134[S], 135[S], 136[S], 138[S]
Royster, L. H., 783*
Rupp, R. A., 761*, 762*
Rusoff, L. L., 143[S], 149[S], 742*
Russell, R. W., 563
Rzucidlo, S. J., 796*, 1238[n]

S

Sadler, K. C., 1449
Salisbury, G. W., 767*
Salsbury, R. L., 779*, 1238[n]
Sargent, A. L., 762*
Sasser, L. B., 144[S]
Satter, L. D., 521, 745*, 771*, 778*, 1219, 1880, 1889
Satterlee, D. G., 135[S], 136[S]
Saylor, W. W., 1243[n]
Scanlon, P. F., 571
Schaeffer, L. R., 109, 773*, 774*
Schafer, H. W., 494
Schanbacher, F. L., 775*, 1048
Schiavo, J. J., 1713
Schifsky, R. F., 482
Schingoethe, D. J., 196, 1841, 1847
Schmidt, G. H., 344, 569
Schmidt, S. P., 952
Schuh, J. D., 741*, 763*
Schultz, L. H., 753*, 775*
Schultze, W. D., 752*, 1242[n], 1244[n]
Schwab, C. G., 778*
Scott, I. M., 777*
Scott, R. A., 801*
Sears, P. M., 1242[n]
Segura, E. T., 135[S], 136[S]
Seidel, G. R., 743*
Sellers, R. L., 787*
Senyk, G. F., 473, 558, 1123
Seoane, J. R., 349, 515
Seto, K., 362
Shaffer, L. M., 134[S]
Shahani, K. M., 668, 787*, 789*, 791*, 792*, 1127
Shainline, W. E., 752*
Shannon, C. W., 137[S]
Sharaby, M. A., 753*
Shaw, G. H., 703
Shayanfar, F., 870
Shellenberger, P. R., 743*
Sherbon, J. W., 1
Shields, L., 1301
Shipe, W. F., 473, 558, 1123, 1263
Shook, G. E., 217, 221, 772*
Shukri, N. A., 311
Shumaker, F. D., 138[S]
Shutt, N. S., 768*
Sibaja, R. A., 344, 569
Sikes, J. D., 768*
Simpson, M. E., 1241[n]
Sinha, D. K., 792*
Slack, S. T., 1328
Slanger, W. D., 774*
Smith, A. M., 678
Smith, D. F., 1241[n], 1688, 1907
Smith, F. F., 752*
Smith, J. A., 952
Smith, J. W., 1244[n]
Smith, K. L., 775*, 1048
Smith, L. M., 791*, 1249, 1254
Smith, L. W., 760*, 1244[n]

Smith, M. A., 1239[n]
Smith, R. C., 785*
Smith, R. D., 1708
Smith, W., 782*
Sniffen, C. J., 371, 1240[n], 1241[n]
Spahr, S. L., 770*, 917
Spalding, G. E., 1578
Spalding, R. W., 718
Speck, M. L., 783*, 828
Speck, S. J., 138[s], 799*
Spencer, R. R., 146[s]
Spessard, G. W., 256
Spiegel, R. E., 135[s]
Spike, P. L., 772*
Spires, H. R., 1808
Stake, P. E., 78
Stallcup, O. T., 1301
Stallings, C. C., 766*
Staples, C. R., 802*
Stead, D., 122
Stephens, C., 689
Steuernagel, G. R., 753*
Stiles, D. A., 777*, 778*
St. Louis, D. G., 755*
Stoddard, G. E., 72
Stoddard, J. D., 765*
Stoloff, L., 1789
Stone, J. B., 672, 742*
Stone, W. K., 799*
Stormont, C., 1501
Stott, G. H., 767*, 770*
Strout, R. G., 765*
Stull, J. W., 763*
Sullins, R. D., 762*
Sulman, F. G., 1637
Sundararajan, N. R., 1595
Sustek, E., 137[s], 1519
Sutton, C., 1433, 1515
Sutton, R. A., 759*
Svejda, R. J., 777*
Swaisgood, H., 583
Swaisgood, H. E., 790*, 796*
Swaisgood, H. W., 796*
Swanson, A. M., 795*
Swanson, E. W., 147[s], 526, 739*, 931, 1578
Swett, W. W., 1453
Syhre, D. R., 957

T

Tamsma, A., 1433, 1515
Tanahashi, N., 1276
Tarodo de la Fuente, B., 293
Terqui, M., 140[s]
Thakur, M. K., 175
Thatcher, W. W., 88, 140[s], 709, 776*, 870, 1528
Thomas, J. W., 703
Thomas, W. C., 799*
Thompson, J. R., 362
Thompson, P. D., 752*
Thompson, W. R., Jr., 146[s]
Thomsen, J. L., 1370
Thornton, J. H., 775*
Thyfault, H. A., 1899
Tobey, D. M., 769*
Tobias, J., 791*
Tomaszewski, M. A., 116, 545
Tomoyeda, M., 1276
Tonroy, B. R., 566
Traylor, D. L., 749*
Trout, G. M., 272
Trucksess, M., 1789
True, L. C., 800*
Tucker, H. A., 703
Tucker, W. L., 754*
Tune, G. L., 138[s]
Tung, S., 102
Turner, L. G., 790*, 793*
Turner, R. J., 763*
Tyler, W. J., 759*, 771*
Tyrrell, H. F., 602, 1151

U

Urban, W. E., Jr., 1865

V

Vakil, J. R., 668
van den Broek, G., 743*
van Dijk, H., 142[s]
Van Horn, H. H., 133[s], 148[s], 896, 1101, 1109, 1320
Vanjonack, W. J., 507
Van Loo, J. W., 521
Van Soest, P. J., 1482
Van Vleck, L. D., 755*
Van Wyk, P. J., 477
Velu, J. G., 741*
Vettel, H. E., 432
Vinson, W. E., 729, 755*, 1071
Voelker, H. H., 754*, 758*
Voigt, A. R., 891
Vujicic, I. F., 790*

W

Wagner, F. W., 789*
Wagner, R. J., 800*
Waite, R., 749*
Waldo, D. R., 922
Walker, C. K., 1240[n], 1247[n]
Wallenius, R. W., 801*, 1314
Wangsness, P. J., 748*, 776*
Ward, G., 428
Warren, W. P., 763*
Watson, V. H., 146[s]
Weathersbee, P. S., 769*
Weaver, C. E., 765*
Weckbach, L. S., 785*
Weckel, K. G., 1782
Weigand, E., 1294
Weiser, G., 362
Welch, J. G., 678
Welch, V. A., 122
Wells, R. C., 747*
Wheeler, W. E., 1902
Whitaker, J. R., 1620
Whitchurch, R. E., 1314
White, C. H., 133[s], 137[s], 138[s], 782*, 799*
White, J. M., 729, 755*, 1086
White, R. G., 1814
Whitechurch, R. E., 801*
Whiting, F. M., 763*
Whitlow, L. W., 141[s]
Whitney, R. McL., 1595
Whittlestone, W. G., 30, 1531
Whitworth, N., 1803
Wible, L. J., 801*
Wiersma, F., 767*
Wiggans, G. R., 755*
Wiggers, K. D., 430
Wiggin, H. B., 416
Wilcox, C. J., 88, 140[s], 141[s], 148[s], 709, 776*, 870, 1101, 1109, 1320, 1528
Wildman, E. E., 1241[n]
Wilk, J. C., 747*
Wilkinson, R. F., 798*
Willard, T. R., 436
Willett, L. B., 764*, 765*
Williams, D. J., 143[s]
Wilson, J. C., 749*
Winder, W. C., 800*
Wing, J. M., 63, 148[s], 1101
Wippler, J. P., 1449
Wise, G. H., 563
Wisniewski, E. W., 761*, 777*
Wohlt, J. E., 745*
Wolfe-Selz, S., 127
Wong, N. P., 1437
Wood, F. W., 839
Woodward, G. J., 792*
Woodward, R. S., 136[s]
Woody, C. O., 1246[n], 1247[n]
Wright, A. W., 143[s]

Y

Yamada, F., 1276
Yang, M. G., 1536
Yang, Y. T., 337
Yazwinski, T. A., 1247[n]
Yerushalmi, S., 1476
Young, J. W., 56, 952, 1294

Z

Zikakis, J. P., 102, 756*, 796*, 1238[n]
Zinn, R. A., 777*
Ziv, G., 938, 1637
Zook, A. B., 136[s], 739*, 751*

SUBJECT INDEX OF PAPERS PUBLISHED IN VOLUME 58 OF THE JOURNAL AND OF ABSTRACTS OF PAPERS PRESENTED AT THE ANNUAL MEETING, THE SOUTHERN DIVISIONAL MEETING, AND THE NORTHEAST DIVISIONAL MEETING OF THE AMERICAN DAIRY SCIENCE ASSOCIATION.

AMERICAN DAIRY SCIENCE ASSOCIATION

annual meeting, 1384
  invitation, 151
awards program, 1385
bylaws revised,
  dairy foods division, 808
  production division, 819
  student division, 813
call for papers, 152, 1594, 1764
constitution revised, 803
directors meeting, 1395
editors—a review, 272
instructions to authors, 154
journal status, 156
officers, committees, representatives, 1408
  installation, 1406
  nominations, 620
presidential address, 1379
program 70th annual meeting, 625
public relations, 1381

AMINO ACIDS

alfalfa absorption, 374
arginine metabolism, 1810
beta-, gamma-, caseins, 577
digestive tract, 1168
dried skim milk, 442
fish protein, 442
fluorescent light, 798[A]
Gouda, Cheddar cheese, 290
kappa-casein sequence, 587
limited for cows, 778[A]
methionine catabolism, 779[A]
nonessential metabolism, 1811
production, 1184
protein, urea, 778[A]
  plasma, 778[A]
  protected, 778[A]

[A]Abstracts presented at the Annual Meeting of ADSA.

[S]Abstracts presented at the Southern Divisional Meeting of ADSA.

[NE]Abstracts presented at the Northeast Divisional Meeting of ADSA.

requirements, 1167
sequences, 598
supplements, 1184
transport in acidosis, 1246[NE]
udder supply, 1240[NE]
uptake, 1189

ANTIBIOTICS

absorption, 1637
cloracillin, 1824
mammary vein, 1854
milk distribution, 938
neomycin, intrauterine, 1368
  mastitis, 744[A]

AYRSHIRE

breeding, feeding calves, 447
evaluating production, 754[A]
calf sorghum feed, 133[S]
milk composition, 817
pedigree, daughter yield, 772[A]
sire summaries, 771[A]
transferrin, 1501

BIOLOGICAL TOXINS

aflatoxin M stability, 1789

BLOAT

poloxalene, 767[A]
quarternary ammonium, 767[A]

BLOOD

amino acids, 193, 374
ammonia, 745[A]
butanediol, 58
cholesterol, 971
estrogens, 36
gel precipitin test, 1240[NE]
gene systems, 735[A], 736[A]
glucose kinetics, 955
lactation fatty acids, 801[A]
lipoproteins, 122
nicotinic acid, glucose, 775[A]
nitrogen ammonia, 777[A]
nutritional stress, 777[A]
plasma glucose, 675
  iodine-131
selenium, plasma, 749[A]
testosterone, 769[A]
thyroxine, heat stress, 777[A]

BLUE CHEESE

A. oryzae enzymes, 1273
composition, 1273
flavor development, 846
  applications, 1136
food, skim milk, 1272

BROWN SWISS BREED

chromosomal aberration, 756[A]
group feeding, 917
health, viability, 96
intrauterine treatment, 1368
monthly AM-PM testing, 781[A]
neomycin, 1368
pedigree, daughter yield, 772[A]
sire summaries, 771[A]
transferrin, 1501

BUTTER

lipase measurement, 789[A]
polyunsaturated, 839
processing, properties, 842
rancidity, 789[A]

CALVES

advances, 436
aminolevulinic dehydrase, 1907
barley storage, 740[A]
birth weights, 724
breeding, feeding, 447
carcass quality, 1688
copper, concentrates, 410, 750[A]
crab meat meal, 404
diarrhea, 761[A]
  electrolytes, 147[S]
  treatment, 464
digestive tract iodine, 529
diseases, 93
dried skim milk, 442
erythrocytes, 1908
experiences, 749[A]
fat types, 742[A]
fish protein, 441, 442
helminth infection, 1247[NE]
housing systems, 134[S], 148[S], 447
immunity, 767[A]
iodine, 775[A]
  absorption, 526
  binding, 933

exchange resin, 147S
excretion, 526
metabolism, 147S, 931
mastitis milk fermentation, 744A
maternal behavior, 749A
methionine supplement, 190
milk intake, isotopes, 1814
milk replacers, 436
mortality, 447, 761A, 1240NE
mustard meal, 1682
pneumonia, 761A, 1363
pregastric activity, 563
protein, 741A, 745A, 775A
growth, 741A
nonprotein N, 746A
soy, 436, 741A
rearing, 436
rumen ammonia, 746A
development
ration response, 1239NE
scours, 1363
sorghum feed, 133S
thyroxine secretion, 775A
transport, survival, 1247NE
waste milk, 742A
wheat, 741A
whey, acid liquid, 1688
zinc absorption, 78
concentrates, 410, 750A

CAMEMBERT-TYPE CHEESE

retentate composition, 1004
ultracentrifugation, 1002
advantages, 1005

CANADA

sire performances, 755A

CASEINS

alpha-helix, 599
antibiotic binding, 941
beta-bands, 795A
degradation, 288, 574
polymorphs, 576
rennin hydrolysis, 798A
dye-binding, 311
gamma-, aggregation, 308
complexes, 790A
polymorphs, 576
sequences, 301, 598
heat complexes, 297, 790A
hydrolysis, 798A
kappa-, rennin action, 14
complexes, 790A
sequences, properties, 589
micelles, autolysis, 654
composition, 295, 653
processing, 477, 979
solubility, 554
structure, stability, 592
amino acids, 595
mercury, 1785
riboflavin, 789A
solvation, 293
supplement, 1180
ultrafiltration, 985

CHEDDAR CHEESE

analysis, 176
annatto, dry whey, 1365
bacteriophage inhibitor, 785A
beta-casein degradation, 288
clotting enzymes, 1739
coagulation phases, 478
commercial enzymes, 964
fatty acids, 179
fibriller structure, 797A
flavor, 966
applications, 1133
foot-and-mouth virus, 784A
freezing bacteria, 137S
fungal enzymes, flavor, 997
glucose, lactose, 792A
Harland-Ashworth test, 797A
lactose, 790A
microstructure, 797A
Mucor meibei protease, 795A
vs. rennet, 795A
lactones, 1439
microbial proteases, 765, 965
physical evaluations, 177
process continuous, 994, 1015
retentates, 793A
salted, unsalted, 177
ultrafiltration, 793A, 1002
advantages, 1005
whey protein denatured, 797A
ice cream, 799A
nonprotein N, 1521
protein solution, 782A
reverse osmosis, 799A
vapor sorption, 26

CHOCOLATE POWDER

proteins, vitamins, minerals, 432

CLEANING-IN-PLACE

detergent energy, 1928
soil deposition, 1096, 1922
evaluation, 1922
removal, 1929
rate, 1930
solution regeneration, 1099
reuse, 1095

COLOSTRUM

acidified, 742A
directly, 743A, 788A
chemical preservation, 957A
cultured, 743A, 957, 959
evaluated, 743A
fermented, 742A, 742A, 742A
diet changes, 744A
natural, 743A
replacement, 743A
human, 1276
lactic acid, 958, 1360
preparation, 743A

COLBY CHEESE

fatty acids, flavor, 1136

COTTAGE CHEESE

acidification, 1018
annatto, dry whey, 1365
antifungals, 668
bacteriophage inhibitor, 785A
Ca, Mg, P, 792A
clotting enzymes, 1739
coagulation phase, 478
curd washing, 1009
fermentation, 1008
Harland-Ashworth test, 797A
lactose estimation, 790A
manufacture continuous, 1008
optimized, 782A
membrane clogging proteins, 1423
microscopic scanning, 1423
milk, high temperatures, 799A
mycostatin, 668
pimaricin, 668
retentates, 793A
whey components, mol wt, 661
electrophoretograms, 658
fermentation, 782A
ice cream, 799A
permeates, 792A
nonprotein N, 1521
protein polymers, 662
solution, 782A
reverse osmosis, 799A
ultrafiltration, 782A, 792A, 1794
vapor sorption, 26

CREAM

plate incubations, 30, 32C, 784A
protein stability, 800A

CREAM CHEESE

antibiotic binding, 941
mercury, 1785
phospholipid, 1444

CULTURED CREAM

vitamin B content, 791A

CULTURED MILK

cholesterol biosynthesis, 790A
copper from alloy, 1537
foods, 783A
L. bulgaricus, acids, 787A
psychrotrophs, 1612
S. cremoris B, D, Dna, 785A
S. lactis C2 coenzyme A, 786
mutants, 482
S. thermophilus acids, 787A

DAIRY BARNS

bedding, mastitis bacteria, 1495
feeder activation, 1531
housing systems, 148S
polybrom biphenyls, 947
roof insulation, paint, 145S

DAIRY-BASED FOODS

kidney patients, 793A

DAIRY CATTLE

adrenal response, 872
alfalfa baled, cubed, 72
birth, adult weights, 724
butanediol, 58
bloat, 767A
blood gene systems, 736A, 736A
calving interval, production, 760A
citrus pulp, 63
conception, subtropical, 88
whole, high moisture corn, 907
cortisol variations, 30
exercise test, 775A
feeds complete, 63, 762, 891, 901, 1154, 1902
feeding behavior, 748A
group, 917
fertility factors, 718
garbage feed, 1672
health data computerized, 127
heart test, 776A
heat, production, 777A
hormone preovulatory, 709
serum, 703
management systems computerized, 239
methionine, 522
protein, 779A
microflora, feeding lot, 134S
milking rate, 545
nitrogen use, 1164, 1219
intake vs. fecal, 1301
parasites, 765A
parturient paresis, 430
physical condition, 775A
polybrom biphenyls, 947
prepartum feed intake, 696
production efficiency, 759A
persistency, 732
profits, 755A
protein percents, 133S
amino acids, 778A
solids analysis, 106
rumen ammonia-nonprotein N, 1880, 1889
fistulae, 1899
motility, 758A
sire summaries, 116, 233, 551, 771A, 772A
evaluation, 109
selection for excellence, 1876
shelter insulated, 136S, 739A
roof sprinkled, 739A
somatic cells, 753A
steroid pregnancy test, 135S
clotting test, 134S
stress, corticoids, 777A
thyroprotein, 703
whey, paper, 1677
zinc-65 absorption, 78

DAIRY FARMS

copper sources, 331
lagoons, 136S
management computerized, 239
milking practices, 753A
monthly PM-AM tests, 781S
shelter insulated, 136S, 739A

DAIRY HERD

births, mature weights, 724
breeding value differences, 772A
estrus, first insemination, 760A
helminth infection, 1247NE
life data computerized, 127
manure pit odors, 766A
mastitis records computerized, 751A
parasites, 765A
postpartum breeding, 266
replacements, 147S
reproductive management, 256, 261
sire summaries, 116, 223, 551, 771A, 772A
soybean hulls, 147S

DAIRY HERD IMPROVEMENT ASSOCIATION

aging frozen semen, 767A
age-season adjustment, 771A
agitation, sampling milk, 1243NE
breeding value, 772A
calf mortality, 447, 761A, 1240NE
calibrated jars, 1243NE
electronic data processing, 230
energy, production, 149NE
fertility factors, 718
Mexico production, 755A
milk estimation, 772A
monthly PM-AM tests, 781A
selection for excellence, 1876
sire identification, 754A
summaries, 233, 551, 771A, 772A
reproductive management, 256, 261
somatic cells, 753A

DAIRY INDUSTRY

DRINC information center, 783A
needs, 783A

DAIRY PLANTS

copper sources, 326
equipment cleaning, 1095
noise reduction, 783A

DETERGENTS

copper sources, 332
solution regeneration, 1096
water hardness, 332

DEUTSCH SCHWARZBUNTEN BREED

milk yields, 754A

DIGESTION

alfalfa, barley straw, 763A
amino acids, 1168
cellulose, 68, 148S, 1151
chitinous materials, 397
coffee grounds, 762A
corn, 566, 1157
silage, 1156
cottonseed, 762A
dry matter fermented, 150S
efficiency, 1151
energy to milk, 602, 609
fatty acids, 1860
fermented DM, 150S
fiber, *T. viride*, 67
forages, 1154, 1347, 1482, 1868
Guar, 1347
intake, 1151
marker, 763A
predictor, 1482
rations complete, 63, 762A, 1154, 1902
sorghums, 135S, 761A, 762A
soybean, fiber, 761A
starch, 568, 1904
temperatures, 21, 32C, 1862
urine-feces separator, 762A
whey, 1857

DRY WHOLE MILK (FOAM)

fat, foaming, 1436
oxidative stability, 474
particle size, 1436
reconstitutability, 1433

DRY WHOLE MILK (SPRAY)

composition, 1516
densities, 1516
fat, foaming, 1436
particle size, 1436
plate incubations, 30, 32C, 784A
properties, 1516
reconstitutability, 1433
volatiles parts per billion, 428

EMULSIONS

model milk fat, 1256
nonfat milk solids, 1261
stability, 800A

ENVIRONMENT

adjusted differences, 1057
adrenal corticoid function, 135S
  stress, 776A
Braunveith behavior, 145S
calf immunity, 767A
cholesterol heritability, 423
conception, subtropical, 89
experiences, 749A
genetics, forage quality, 146S
heat exposure, 508
  stress, thyroxine, 777A
  estrous, 1836
maternal behavior, 749A
mercury distribution, removal, 1782
methionine, summer stress, 139S
polybrom biphenyls, 748
shelter insulated, 136S
  sprinkled roof, 739A
Schwarzbunte behavior, 145S
serum characteristics, 134S
thyroid activity, 136S

ENZYMES

adenyl cyclase, 864
aminolevulinic dehydrase, 1907
carboxypeptidase A, 651
  casein micelle, 652
catalase, hydrogen peroxide, 1145
  psychrotropic bacteria, 1612
cellulase, forage, 1484
  T. viride, 67
cheesemaking, 997
commercial, 964
esterases, 563
fungal esterases, 795A
galactosyltransferase, 1277
hydrolytic, 1123
isomerase decarboxylation, 1230NE
lactase, *K. fragilis*, 1620
lactose to lactic acid, 1145
lipase, animal origin
  development, 789A
  fatty acids, 1130
  flavor, 1127
  phospholipase, 794A
  plants, 849
lysozyme stability, 835
mastitis, 11
membrane markers, 1204
microbial protease, 965
milk clotters, 1739
  flavor, 1123
Mucor proteases, rennet, 795A
oxidases, psychrophiles, 137S
oxidative, 1123
pepsin, rennin coagulation phase, 478
  immobilized, 19
peroxidase immobilized, 1118
phospho-beta galactosidase, 485
phosphatase isolation, 789A
phospholipase C, 794A
phytate metabolism, 133S
proteases stability, 795A, 831
  immobilized, 1118
rennin immobilized, 796A
  beta-casein, 798A
  kappa-casein, 13
stability, 1120
S. lactis C2, coenzyme A, 786A
superoxide dimutase, 798A
sulfhydryl oxidase, 796A
technology, 1117, 1739
transaminase, 85
trypsin antioxidant, 1266
  lysine cleavage, 302
  oxidation inhibitor, 474
xanthine oxidase, 1238NE
  antigenecity, 796A
  isolation, 1239NE

EXTENSION EDUCATION

estrus detection, 780A
forage testing, 779A
4-H dairy literature, 781A
profit, 780A
reproductive efficiency, 780A

FEEDERS

activation, 1531
salmonella survival, 149S
self feeding gate, 1695

FONTINA CHEESE

fungal esterases, 795A

FORAGES

alfalfa hay, 761A
  haylage, 761A
blood metabolites, 1341
bermudagrass cultivars, 150S
cellulose, 68
citrus fruit pulp, 1102
concentrates, 1902
corn, haycrop, 392
dietary energy, 1869
digestibility, 1154, 1868
  predictor, 1482
feed intake, 1331
garbage, 1672
genetics, environment, 146S
Guar digestibility, 1347
legumes, applied N, 145S
manure vs. N, 148S
mineral variability, 141S
nitrogen, 1302
oatlage vs. barley, wheat, 758A
poloxalene, bloat, 767A
  quarternary ammonium, 767A
quality, processing, 146S
selenium review, 1561
silage only, 737A
sorghum, 135S, 761A, 762A
tests, 221, 779A
trace elements, 1538

FLECKVIEH BREED

milk yields, 754A

GELBVIEH BREED

milk yields, 754A

GENETICS

AI planned matings, 1083
  problems, 1085
  trends, 1873
adult, birth weights, 725
  heritabilities, 727
blood gene systems, 736A
breeding value, 772A, 1910
Ca metabolism, 1555
cholesterol heritability, 423
chromosomal aberration, 756A
cow evaluation, 1910
crossbreeding, 96
culling bias, 1914
evaluation, 120
feed efficiency, 757A
gene frequency, 736A
herdmates sires, 771A
inbred, line-crossed, outbreds, 754A
karyotyping, 1080
mammary traits, 729, 736
mastitis heritability, 751A
milk polymorphism, 736A
milking rate heritability, 548
parameters I, II, III, 773A
pedigree grouping, 771A
phenotypic correlations, 773A
postpartum breeding, 266
predicting daughters ability, 1074
  variances, 774A
production evaluation, 745A
progeny, pedigree, 773A
  sex ratios, 1773
  test, 117
relationships all, breeding predictions, 1910
relationship matrix inverse, 1727
relationships, sire evaluation, 774A, 1731
relationships, sires, 1917
selection for excellence, 1876
sire evaluation, 1731
  fertility, 1245NE
  sampling, 1067, 1083, 1086
  merits, 1507, 1717
  sons tested, 1075

summaries, 116, 233, 551, 771A, 772A
thyroxine prediction, 1080
total solids production, 754A
traits physiological, 1078
transferrin, 1501
variations, 774A
yield, 509

GERMAN BRAUNVIEH BREED

behavior, 145S

GOAT

antibiotic infusions, 939
cheese, 1004
cholesterol transport, 971
milk ultrafiltration, 1002
nicotinic acid, plasma, 775A
propanediol, mucosal growth, 1352
retentate composition, 1004

GOUDA CHEESE

beta-casein degradation, 288

GRAINS

ammonia-treated, 1243NE
brewers, 747A
coffee grounds, 762A
components, 1154
corn, acid-treated, 915
digestibility, 566, 1157
high moisture, 306, 682, 747A
H. madis infected, 757A
preservation, 747A
processing, 909
replacement, 761A
roasting, 566
cottonseed digestibility, 762A
protein solubility, 1240
selenium review, 1561
sorghum digestibility, 762A
trace elements, 1536
urea, 737A
wheat, 741A

GUERNSEY BREED

blood gene systems, 736A, 736A
breeding, feeding, housing, 447
calf-heifer mortality, 447, 761A, 1240NE
estrous, 1836
heat, hormones, 1836
heifer training, 749A
intrauterine treated, 1368
methionine supplement, 778A
milk composition, 817
neomycin, 1368
pedigree, daughter yield, 772A
pregnancy rate, 264
phenotypic correlations, 773A
production adjustments, 773A
extensions, 162
protein, solids-not-fat, 106, 797A
rations complete, 63, 891, 896, 1102, 1109, 1320
shelter insulated, 739A
sire karyotyping, 1080
summaries, 116, 233, 551, 771A, 772A
transferrin, 1501

GUINEA PIG

antigenicity, xanthine oxidase, 796A

HAY

alfalfa cubes, 763A
haylage, 761A
barley straw, 763A
cellulose digestibility, 149S
heifer forage, 761A
selenium review, 1561
trace elements, 1538

HEALTH

antibiotic absorption, 1637
aflatoxin M, 1791
Cd, Hg, Pb, metabolites, 1767
coumaphos wormer, 144S
diarrhea, 147S, 464, 761A
dystocia, 764A
prepartal hormone, 770A
exercise, condition, 776A
test, 775A
fallout radiation, 144S
helminth infection, 1247NE
hoof-and-mouth virus, 784A
iodophor test, 752A
life data computerized, 127
mastitis prevention, 202, 205, 209
metritis, 764A
parturient paresis, 430
Ca, cortisol, 740A
Ca, P, Mg, 750A
records computerized, 112
silage diets, 747A, 1336
viability, pure, crossbreds, 93

HEIFERS

adrenal, stress, 776A
AI trends, 1871
body dimensions, age, 1462
butanediol, 56
cholesterol heritability, 423
forages, 761A
garbage, 1672
grass-legume silage, 1695
growth, pelvic opening, 760A
hay, haylage, 761A
haycrop silage, 392
helminth infection, 1247NE
lactation induced, 853, 1524
Mg ferrite absorption, 1479
mammary development, 739A
mortality, 761A, 1240NE
pastures, 759A
prepartum exercise, 749A
prepartal hormone, 1701
dystocia, 770A
preserved silage, 922
soybean hulls, 147S
thyroid activity, 136S
training, 749A
wheat silage, 147S
whey proteins, 775A

HIGH TEMPERATURE HEATING

cottage cheese, 799A
cream homogenization, 800A
emulsion stability, 800A
fat analysis, 136S
lysozyme stability, 835
Mucor proteases stability, 795A
proteases, 795A, 831, 1120
Pseudomonas proteases, 795A

HOLSTEIN-FRIESIAN BREED

ad libitum feeding, 700
adrenal cortical function, 135S, 1242NE
AI age-season adjustment, 771A
trends, 1871
all hay vs. all grain, 1294
amino acids, 778A
ammonia vs. urea, 757A
anatomical structure, 1463
blood, milk biphenyls, 765A, 764A, 949
body weights, 1456
breeding, feeding, housing, 447
bull indices, 1239NE
Ca and production, 760A
cholesterol heritability, 423
cottonseed hulls, 747A, 763A
coumaphos wormer, 144S
dystocia, 770A
estrus first insemination, 760A
exercise test, 775A
external form, internal anatomy, 1493
fallout radiation, 144S
feeding behavior, 748A
fertility, 718
fetuses dimensions, 1370
grass-legume silage, 1695
grain vs. all-in-one feed, 143A
group feeding, 917
growth, pelvic opening, 750A
health, viability, 93
heat, production, 507
hemi-cellulose, 149S
intrauterine treatment, 1368
lifetime profit, 780A

liquid whey, 1688
mammary gland changes, 140S
maternal behavior, 749A
methionine, 192, 779A
Mexico production, 755A
mustard meal, 1682
neomycin, 1368
prepartal hormone, 1701
production efficiency, 759A
  interval, 760A
  evaluation, 754A
  extension, 102
protein, growth, 741A
rations complete, 63, 891, 1102, 1109, 1320, 1902
rumen organisms, 1660
shelter insulated, 739A
steer growth, 755A

HORMONES

ACTH, 870
adrenal response, silage, 1242NE
  cortisol function, 135S
  insulin, 502
  stress, 776A
corticoid, stress, 777A
  plasma, 1244NE
  response, 1708
cortisol, heat, 1837
  Ca, 740A
  variations, 31
estrogens, blood, milk, urine, 36
glucocorticoid, 703
growth, 703
induction in vitro, 1022
insulin, glucose metabolism, 672
  postfeeding, 513
  nicotinic acid, 775A
  response, 775A
lactation induction, 140S, 740A, 853, 1524
mammary metabolism, 1033
  hormones, 1033
mineral metabolism, 1701
ovulation, 709
oxytocin, milk ejection, 569
plasma corticoids, 140S
prepartal, dystocia, 770A
progesterone, heat, 1837
prolactin, 703
  milk, 183, 188, 1805
reserpine, 740A
response to thyroprotein, 703
RNA induction, 1027
steroid metabolites, sow, 43
thyroid I uptake, 1587
  status, 529
thyroxine, calves, 775A
  cattle, 507
  heat stress, 777A
  globulin, 703
  predictor, 1080

HUMAN MILK

galactosyltransferase, 1277

ICE CREAM

peanut butter, 793A
plate incubations, 30, 32C, 784A
retail quality, 138S
whey products, 799A

IMMUNOGLOBULINS

calf serum, 767A
gamma-granules, 1423
mammary gland, 775A
phagocytosis, 1242NE

IRANIAN WHITE CHEESE

S. aureus, *C. botulinum*, yeasts and mold contaminants, 784A

ISRAELI-FRIESIAN BREED

magnesium ferrite absorption, 1476

ITALIAN CHEESE

bacteriophage inhibitors, 785A
flavor applications, 1134
process continuous, 1018

JERSEY BREED

anatomy internal, 1453
  structures, 1465
body weights, 1456
calf-heifer mortality, 1240NE
  breeding, 447
corn silage vs. sorghum, 143S
esterases activity, 563
feeder activation, 1531
intrauterine treatment, 1368
mastitis heritability, 751A
milk composition, 817
neomycin, 1368
pedigree, daughter yield, 772A
pregnancy rate, 264
prepartal hormone treatment, 1701
rations complete, 891, 896, 1103, 1109, 1320
reproductive efficiency, 541
sire summaries, 233, 551, 771A, 772A
transferrin, 1501

KLUYVEROMYCES FRAGILIS

lactase, 1620
kidney patient foods, 795

LACTATION

ad libitum feeding, 700
adrenal response, 970
age-season adjustment, 771A
ambient temperatures, 134S
ammonia vs. urea, 757A
Ca, P, Mg, 750A
carnitine, plasma, glucose, 802A
cholesterol, 149S
  heritability, 423
cottonseed hulls, 747A, 763A
cubed vs. baled alfalfa, 72
energy to milk, 602
fallout radiation, 144S
fat secretion, 1291
feed digestible energy, 609
  intake, K, 148S
  urea, 615
formaldehyde treated protein, 1847
grain vs. all-in-one feed, 143S
  brewers, 747A
  high, 512
group feeding, 917
heat, production, 509
hemi-cellulose extract, 149S
hormone induced, 140S, 740A, 853, 1524
Israeli herds production, 270
maternal behavior, 749A
methionine supplement, 779A, 1216
  excess, 522
  protein, 779A
Mexico production, 755A
milk production, 772A
  ejection, 344
  isotopes, 1814
  prolactin, 185, 188
  rates, 545, 733A
  yield, 1074, 1814
mustard meal, 1682
nitrogen needs, 1229
  sources, 777A
  supplements, 1110
  utilization, 745A, 1229
oatlage vs. barley-wheat, 758A
oxytocin, milk ejection, 569
part, whole, 759A
parturient paresis, 430, 740A, 750A
plasma glucose synthesis, 364, 801A
prepartum exercise, 749A
production adjustments, 773A
  breeding, 541
  curve, 772A
  early, 754A
  high, 777A
profit, 755A, 780A
protein, amino acids, 778A, 1178
  evaluation, 616
  liquid, 142S, 693
  percents, 133S
  responses, 1178
  solids, 106

urea, 778A
rat AMP cycle, 851
rations complete, 143S, 894, 896, 918, 1101, 1109, 1320
ensiled, 143S, 901
maximum profit, 228
roughage, 143S, 672
rumen organisms, 1660
sorghum, grain, 763A
soybean, fiber, 761A
Starea, soybean, urea, 777A
utilization, 778A
sugarcane bagasse, 896
sunflower feeding, 759A
triglycerides fatty acids, 801A
udder traits, yield, 735
whey, fermented, 748A
liquid, 748A
zinc-65 absorption, 750A

LACTOGLOBULINS

association, 666
beta- clogging membranes, 1425
fluorescent light, 798A
high temperatures, 799A
purification, 665

LACTOSE

alpha absorption, 319
alcohol, 321
esters, 323
estimation, 790A
hollow fiber ultrafiltration, 1794
intolerance, 1620
lactose-*K*-casein complex, 790A
milk to acid, 1144
phospho-beta-galactosidase, 485
S. cremoris metabolism, 786A
synthesis, 160
synthetase, 1050

LIPOPROTEINS

blood, 123
cholesteryl esters, 973
composition, 124
fatty acids, 122
protected, 842

MAMMARY GLAND

alveolar tissue, 855
amino acids, 1854
supply, 1240NE
AMP cycle, 851
antibiotic absorption, 1637
infusions, 939
antimicrobial system, 1050
arginine metabolism, 1810
capacity changes, 140S
cAMP's metabolic role, 1034
cell density, 161
fractionation, 1283
characteristics, 729
development, 855, 856
epithelial, 739A
Golgi apparatus, 1282
hormone mitosis, 1022
response, 1022
structure, 1024
infection prevention, 202, 205, 209
iodine, 1581
ion transport paths, 1042
insulin in rat, 337
metabolism, 1035
involution, 1052
lactation induced, 140S, 740A, 853, 1524
membranes, 1282
metabolism, 1033
morphology, 856
phosphatase, 1285
phosphatidic acid, 560
ornithine metabolism, 1808
prolactin, milk secretion, 1803
protein solubility, 1240NE
feedstuffs, 1240NE
streptococci, staphylococci, 1497
traits, 729
triglyceride synthesis, 1800
whey proteins, 1049

MANAGEMENT

age-season adjustment, 771A
barley storage, 740A
beef cattle breeding, 145S
calf diarrhea, 464
breeding, 447
housing, 148S, 447
computerized, 217
conception rate, 88
dairy lagoons, 136S
eating intervals, 745A
estrus detection, 780A
exercise, condition, 776A
feeder activation, 1531
systems, 747A
forages for heifers, 761A
4-H dairy literature, 781A
group feeding, 917
growth, pelvic opening, 760A
herd, 230
income losses computerized, 780A
information computerized, 239
decisions, 217
DRINC's center, 783A
needs, 217
lifetime profit, 780A
mature pit odors, 766A
mastitis, bedding, 1495, 1498
pathogens, 752A
records computerized, 751A
meal size, 746A
milk estimation, 772A
production in eighties, 145S
milking practices, 753A
rates, 545
nitrogen use model, 744A
parturient paresis prevention, 430
pastures, 759A
production efficiency, 759A
rations complete, 63, 891, 896, 1102, 1109, 1320
balancer computerized, 221
maximum profit, 226
selected, 229
reproduction, 267
program, 256, 261
spermatozoa frozen, 418
roof insulation, sprinkling, 136S, 739A
selection for excellence, 1876
sire economics, 1717
summaries, 233, 551, 771A, 772A
teat dip automated, 752A
weight indices, 802A

MARE MILK

lysozyme, 835
stability, 837

MASTITIS

antibiotic absorption, 1637
milk fermentation, 744A
bedding infection, 1495
California mastitis index, 208
coliforms, klebsiella, 1492
cloxacillin, 1824
drying off, 1822, 1828
fat membrane, 9
heritability, 751A
hygiene, 202, 205, 209
teat dip automated, 752A
cups oil-based, 205
efficiency, 144S, 202
infection, 209
skin bacteria, 210
iodophor teat dip, 752
lactoferrin, 1057
maturity, neutrophils, 1243NE
pathogens, 752A
phagocytosis, 1242NE
records computerized, 751A
S. aureus, S. agalactiae, 208
gangrene, 1242NE

MEMORIALS

L. A. Johnson, 962
Robert L. Latzer, 158
Rudolph Leighton, 1094
Milton E. Powell, 1960
Lore A. Rogers, 962
Charles W. Turner, 1765

METALS

Cd, Hg, Pb metabolites review, 1767

MEXICO

Holstein production, 755A
sires performance, 755A

MICE

acetyls, glucose, fatty acids, 1799
mammary indices, 802A
protein protected, 1845
pregnancy, stress, 801A
rumen fluid toxicity, 766A
triglyceride synthesis, 1800
yogurt, tumor inhibition, 787A

MICROBIOLOGY

A. niger, silage, 537, 669
B. cereus, glucose, 785A
cell yields, 1645
corn, high moisture, 388
Diplodia gossypins, cellulose, 1241NE
facultative toxic bacteria, 766A
fungal growth, silage, 532, 757A, 1666
Geotrichum, silage, 537
K. fragilis lactase, 1629
L. acidophilus, colostrum, 742A, 788A
L. bulgaricus, Swiss cheese, 787A
Cu, 1630
microbial protein, 1311
milk plate counts, 784A
Mucor proteases stability, 795A
mycostatin, 668
N distribution, heat, 785A
P. roqueforti, cheese, 847, 1273
silage, 537
pimaricin, 668
P. fluorescens phospholipase, 794A
propionibacteria, 1630
psychrotrophs, proteases, 785A, 828
lactics, 1612
rumen microbes, 1660
fermentation model, 879
protein degradation, 745A
S. typhimurium, manure pits, 766A
S. cerevisiae growth, 668
S. aureus, barn bedding, 1492
cloxacillin, 1824
lactoferrin, 1051
teat ends, 1497
S. agalactiae, barn bedding, 1492
cloxacillin, 1824
gangrene, 1242NE
teat ends, 1497
S. cremoris BD, DNA, 786A
S. lactis C2 coenzyme A, 786A
S. lactis M18, ML3, C10, 785A
S. lactis mutants isolation, 486
appearances, 486
S. thermophilus acids, 787A, 1630
T. viride cellulase, 67

MILK

aflatoxin stability, 1791
American diet, 1751
amino acids, fluorescent light, 798A
antibiotic binding, 941
autoxidation, 137S
Babcock vs. infrared analysis, 791A
casein dye binding, 311
cholesterol analysis, 149S, 789A
biosynthesis, 790A
distribution, 974
ration, 149S
components unidentified, 791A
composition, 901
consumption trends, 1751
copper distillates, 788A
alloy released, 1537
sources, 335
coumaphos wormer, 144S
corticoids, 1244NE
cultured foods, 783A
Darison controller, 800A
emulsion stability, 1249, 1254
estrogens, 36
fatty acids, 1317
fat depression, 678
globule membrane, 878
heart disease, 1751
iodine, 752A, 1584
iodophor teat dip, 752A
intolerance, 1751
lactose to acid, 1144
lipase, 789A
lipolysis, 788A
Lowry protein method, 797A
mercury removal, 1782
toxicity, 1767
micelle structure, 651
microconstituents, 791A
N distribution by heat, 785A
nutritional value, 1751
oxidative stability, 474, 759A, 1266
phospholipid, 1444
phospholipases detection, 794A
phosphatase isolation, 789A
polybrom biphenyls, 947
polymorphism, 756A
properties from mastitis, 9
protein-bound Ca, 1595
content, 788A
food processing, 977, 985
solids-not-fat, 106
ultraviolet analysis, 798A
psychrophiles, 137S, 137S
genera, 785A
heat resistance, 828
rancidity, acid degrees, 137S
indicator, 137S
raw cheese, 784A
riboflavin destruction, 789A
selenium, 749A
somatic cells, 753
standardization, 800A
sunlight, 788A, 1609
trace metals, 788A
unsaturation, 759A
vitamin A analysis, 558
volatiles parts per billion, 428

MILK ANALYSIS

annatto in dry whey, 1365
Babcock, Banco, Mojonnier methods, 136S
Babcock vs. infrared analysis, 791A
cholesterol, 789A
composition, six breeds, 817
Lowry protein analysis, 797A
microconstituents, 791A
Milko-Tester, fat, 136S
protein microdiffusion test, 135S
bound Ca, 1595
rabbit milk, 1449
volatiles parts per billion, 428
xanthine oxidase isolation, 1238NE

MILK CLOTTING

casein dye-binding, 311
cheese enzymes, 1739
kinetics, 21
Mucor miehei protease, 795A
Mucor pusillus protease, 795A
peroxidase immobilized, 1118
protease immobilized, 1118
rennin, kappa-casein, 13
secondary coagulation phase, 477

MILK FAT

biosynthesis, 4, 5
cholesterol analysis, 789A, 974
cod-liver oil, 49
cubed vs. baled alfalfa, 74
depression, 52, 136S
emulsion stability, 1249, 1254
globule membrane losses, 1442
lipolysis, 1519
mastitis, 9
mercury, 1785
proteins mol wt, 316
proteolysis, 1267
glucose pathway, 167
lipase-phospholipase interaction, 794A
palmitic acid pathway, 167
production, 52
steriospecific analysis, 1
synthesis, 167

triglycerides, high melting, 1
interferences, 789A
plasma, 801A
synthesis, 164, 560

MILK FLAVOR DEFECTS

hydrolytic enzymes, 1123, 1127
rancidity, 137S
mustard meal, 1682
oxidative enzymes, 127, 788A, 1123
sunlight, 788A, 1609

MILKING MACHINE

automatic vs. manual control, 144S
barn practices, 755A
rates measured, 545
automated, 753A
interval, 1245NE
Milk-O-Meter, 753A
oxytocin, 1245NE
time, 1878
vacuum controllers, 752

MILK SECRETION

epinephrine inhibition, 344
fat, low fiber, 1291
gluconeogenesis, 801A
iodine, 1384
monovalent ions, 1042
oxytocin, 347
milk ejection, 569
milking interval, 1245NE
phospholipids, fat, 1288
pregnancy, 1045
prolactin, 1805
species, 1043
udder washing sequence, 344
whey proteins, 775A, 1048

MILK SYNTHESIS

abomasal glucose infusions, 801A
casein, lactose synthesis, 1036
glucose pathway, 164, 364, 801A
glyceride fatty acids, 801A
hormone responses, 1022
lactose, mammary cells, 159
mammary epithelium, 1042
ion transport, 1042
mice, pregnancy, stress, 801A
milk fat, cod-liver oil infusions, 49
acids, 337
oxytocin disruption, 1043
palmitic acid pathway, 164
protein phosphorylation, 1026
triglycerides, 164, 560
whey proteins, 1048

MINERALS

Ca and cortisol, 740A
Mg, P cottage cheese, 792A
feed intake, K, 148S
homeostatic control, 1549
hormone treatments, 1701
metabolism, 1549
milk trace metals, 788A
phosphorus, estrus, 750A
protein-bound Ca, 1595
rabbit milk, 1451
selenium metabolism, 749A
review, 161
serum cations, 746A
trace, 1538, 1549, 1561, 1478
urea, 746A
Zn, Cu, Mn for calves, 410
intracellular, 750A

MOZZARELLA CHEESE

acidification direct, 494
high temperature milk, 494
protein denaturation, 496
retentate ultrafiltered, 793A
sensory, rheology, 499

NUTRITION

ACTH, corticoid response, 1708
ad libitum feeding, 700
alfalfa-fed sheep, 759A
all-hay vs. all-grain, 1294
amino acid absorption, 371
baled vs. cubed alfalfa, 72
brewers grains, wet, dried, 747A
butanediol, 58
Cd, Hg, Pb toxicity, 1767
Ca, production, 750A
cations, hypothelmic injections, 349
cellulose digestibility, 68, 148S
chitinous materials, 397
cholesterol in ration, 149S
heritability, 423
citrus pulp, 63
cod-liver oil, 49
cottonseed hulls, 747A, 763A
diet, glucose metabolism, 674
dairy products, 1751
digestive efficiency, 1151
tract I, 529
eating intervals, 745A
energy to milk, 602
digestible, 602
phosphorus, 750A
production, 149S
metabolizable intake, 604
feed intake, prepartal, 1701
feeding by group, 917
behavior, 515
systems, 747A
temperature, 515
fermented-digestible DM, 150S
fiber, fat secretion, 1291
forage, concentrates, 1902
digestible predictor, 1482
garbage feed, 1672
grain high, glucose, 513
all-in-one feed, 143S
hay, 1294
heart disease, 1751
hemi-cellulose extract, 149S
hormones, feed intake, 1701
insect material, 397
iodine metabolism, 1579
lipid protected supplement, 791A
magnesium ferrite absorption, 1476
feces, 1479
methionine excess, 521
feed intake, 522
supplement, 190, 779A, 1316
mineral metabolism, 1549
hemeostatic control, 1549
molasses supplement, 133S
mustard meal, 1682
nitrogen, forages, 1301
intake vs. fecal, 1306
metabolism, 1168, 1226, 1301
protein supplements, 693, 1110
utilized, 744A, 754A, 1164
nonprotein N limits, 1880, 1885
meal size, 746A
needs, 1885
predicted use, 1889
rumen ammonia, 1882, 1889
utilized, 1880, 1889
parity, dry matter intake, 770A
parturient paresis, 430
pasture management, 759A
plane, 1157
polybrom biphenyls, 947
potato-based silage, 1241NE
prepartum feeding, 698
production efficiency, 759A
protein, amino acids, 1178
evaluation, 616, 1102
metabolizable, 612
needs, 1229
percents, 133S
protected, 1841
solubility, 1240NE
sources, 613
urea, 778A
utilized, 1229
whey, 1847
ration balancers, 223
computer selected, 229
maximum profit, 226, 229
rations complete, 63, 891, 896, 1102, 1109, 1320
digestibility, 762A, 1154, 1902
ensiled, 143S, 901
roughage, 143S, 672
roughage:concentrates, 891
rumen motility, 758A

salmonella survival, 149S
selenium review, 1561
metabolism, 749A
sheep water intake, 517
silage-based diets, 1328
feeding ratio, 142S
only, 737A
preserved, 922
sorghum, 143S
wheat, 147S
sorghum digestibility, 761A
soybean meal, 898, 1102, 1321
fiber, 761A
hulls, 147S
starch digestibility, 568, 1904
starea, soybean, urea, 669, 777A
stress vs. corticoids, 777A
sugarcane bagasse, soybean, 898, 1102, 1321
sunflower feeding, 759A
trace elements, 1538
thyroprotein, 703
urea fermentation, 614
ammonia, 757A
supplement, 1102
toxicity, 746A
whey ammoniated, 748A
digestibility, 1857
fermented, 748A
metabolism, 1856
paper, 1677
zinc absorption, 79

OATLAGE VS. BARLEY, WHEAT, 758A

ornithine metabolism, 1808
orotic acid, cholesterol, 790A

PARASITES

Haemonchus, Osteragia, Trichostrongylus and others, 766A
gastrointestinal, 766A

PASTURES

grain bloat, ammonium, 767A
legume bloat, poloxalene, 767A
management, 759A
manure slurry, 146S

PHYSIOLOGY

abomasum glucose infusion, 141S, 801A, 955
intra-, cod-liver oil, 49
radioiodine, 529
responses, ACTH, 872
acidosis, 1246NE
amino acids absorption, 374
infusions, 778A
transport, 1246NE
arginine metabolism, 1808
blood serum, 134S
cations, 740A
corticoid response, ACTH, 1708
embryo transfer, 1091
exercise test, 775A
fatty acids, acetyls, 1799
metabolism, 1294
feeding behavior, 515
fetus dimensions, 1370
fixation technique, 768A
gel precipitin test, 1240NE
heart action, 775A
hormones, preovulatory, 709
insemination, 769A
iodine, abomasum, 1582
absorption, 526
distribution, 936
excretion, 526
urine-I-131, 933
lactation induction, 740A, 853
lipogenesis, 367
mammary development, 739A, 739A, 855
mastitis, physiological response, 751A
ornithine metabolism, 1808
phytate metabolism, 133S
postfeeding, 513
pregnancy, progesterone, 1713
rumen bypass, 1198, 1201
fermentation model, 879
fistulae, 1899
mucosa metabolism, 1296
ration response, 1239NE
silage, blood metabolites, 1341
stomach passages, 141S
thyroprotein, 706
urea toxicity, 746A
ventricle survey, 515
zinc-65 absorption, 79

POLYBROM-POLYCHLOR BIPHENYLS

blood, milk body fat, 765A
clearance, 764A
excretion in milk, 765A, 949
behavior, 765A
field observation, 763A
milk production, 948
placental transfer, 764A
references, 951
tissue distribution, 764A
translocation, 765A

PROCESSING PLANTS

polychlor-polybrom biphenyl hazards, 951

PROTEINS

bound Ca, 1595
chemically treated, 1204
fat globules, 313
hollow fiber ultrafiltration, 1794
Lowry method, 797A
metabolizable N, 1226
microbial degradation, 745A
yield, 1645
microdiffusion test, 135S
milk N distribution, 817
ultraviolet spectroscopy, 798A

PROVOLENE CHEESE

fatty acids, 1134

PUERTO RICO

sire performance, 755A

QUALITY

amino acids, alfalfa, 374
automated plate loop, 783A
bermudagrass cultivars, 150S
forages, 148S
genetics, environment, 148S
ice cream, 138S
protein whey solution, 782A
psychrophiles, milk, 137S
somatic cells, 753A
streams, 145S

QUESO BLANCO CHEESE

acid whey coagulants, 793A

RABBIT

arginine metabolism, 1810
cottontail milk composition, 1449
ornithine metabolism, 1808

RAT

adrenalectomy, 505
AMP cycle, lactation, 861
glucose metabolism, 339
insulin, 337, 505
lipogenesis, 339
mammary cAMP, 504
phosphatidic acid, 560
seminiferous epithelial cycle, 768A
triglycerides synthesis, 560
xanthine oxidase activity, 1230NE

RED DANISH CATTLE

fetus dimensions, 1370
prolactin, milk secretion, 1803

RED SINDHI BREED

crossbreds, 96
health and viability, 99

REINDEER

isotope estimations of milk, 1814

nursing milk intake, 1818

REPRODUCTION

ACTH, corticoid response, 1708
artificial insemination, New York, 718
economics, 1717
evaluation, 1916
fertility, 718
subtropical, 88
Furacin, 138S
hormone treatment, 769A
neomycin, 1367
statistics, 141S
aging frozen semen, 767A
breeding efficiency, 540, 719, 771A, 780A
bull development, 1246NE
Ca and cortisol, 740A
calving rates, 771A
chorionic gonadotropin, 771A
cortisol variations, 30
dystocia, 770A
ejaculations, 769A
estrous changes, 1528
cycle, 1713
heat, 1836
resistance, 769A
estrus, first insemination, 760A
detection, 246, 248, 780A
postpartum, 750A
temperature, 770A
fetus dimensions, 1370
orientation, 572
growth, pelvic opening, 780A
hormones, heat, 1836
preovulatory, 709
intrauterine treatment, 138S, 1368
lactation, hormone induced, 1524
lifetime profit, 780A
management program, 246, 256, 261
methionine, efficiency, 139S
milk prolactin, 183
progesterone, 1713
nitrate, 771A
oviduct ampulla, 138S
isthmus, 139S
ovulation, 709
parturition, dry matter intake, 770A
performance, 268
postpartum breeding, 138S
pregnancy evidence, 750A
coagulation test, 134S
progesterone, 770A
rate, 264
stage, 572
steroid diagnosis, 135S
prepartum serum hormone, 770A
production, 143S
semen costs, 1717
diluters, 768A
fertility, 1080
lyophilization, 768A
survival, 768A
silage diets, 1334
spermatozoa fertility, 420
freezeability, 416
straws, 416
fixation, 768A
lipid lost, 82
protection, 84
skim milk, 420
status, 1713
testosterone, oxytocin, 769A
serum, 769A
thyprotein, 706
transaminase, changes, 85
vaccination, 143S
vaginal circulation, 1528
vibrio fetus, 143S
water nitrate, 771A

REVIEWS

American diet, 1751
Cd, Hg, Pb metabolism, 1767
calf rearing, 436
casein sequences, 574
cheesemaking continuous, 994
dairy science editors, 272
dairy sires, 1063
digested energy, 602
digestive efficiency, 1151
enzyme technology, 1117, 1739
management computerized, 217
reproduction, 245
milk protein processing, 977
milk synthesis, 1022
postpartum breeding, 266
protein nutrition, 1161
trace elements in nutrition, 1538, 1549

ROMANO CHEESE

fungal esterase evaluation, 798A

ROQUEFORT CHEESE

fatty acids, 1135

RUMEN

ATP and glucose, 1645
ammonia, 745A, 777A, 1323, 1881, 1889
bacteria, 1220
determination, 745A
nitrogen, 778A, 1112
amino acids protected, 779A
sulfur, 1203
bacterial cell production, 1169, 1645
butanediol, 56
butyrate, 1645
bypass, protein protected, 1198, 1841
calves, development, 741A
cellulose digestion, 1489
chitin digestibility, 400, 403
fatty acids, 905, 1113, 1323
metabolism, 1294
fermentation model, 879
grain, toxic fluid, 766A
methionine decarboxylation, 1238NE
motility, 758A, 758A
mucosal growth, 1354
nitrogen sources, 777A
nonprotein N, 745A
phytate metabolism, 133S
protein digestion, 745A, 1200
formaldehyde-treated, 1852
infusions, 1184
microbial, 1311
nitrogen, 746A
solubility, 1240NE
sources, 778A
urea infusions, toxicity, 745A

SAINT-PAULIN CHEESE

ultrafiltration, lactose reduction, 1005

SCHWARZBUNTE BREED

behavior in tropics, 145S

SHEEP

acidosis, 1246NE
alfalfa growth, 759A
amino acids, protein, 778A
transport, 1246NE
cations, barbiturates, 517
feeding, 349
corn + excreta, 1244NE
digestibility, 21, 32C, 1860
feed intake, ventricle survey, 515
feeding behavior, 515
hypothalmic controlled feeding, 349
lactation induction, 140S
methionine, 1206
rumen fistulae, 1899
whey metabolism, 1856
water intake, 517

SHORTHORN BREED

milk composition, 817
pedigree, daughter yields, 772A

SILAGE

acetic, lactic acids, 534
ACTH response, 1708
ammonia vs. urea, 757A
treated, 1243NE
bermudagrass reconstituted, 141S
cellulose digestibility, 68, 148S

corn vs. haycrop, 392, 1865
high moisture, 747A, 685, 907
cottonseed digestibility, 762A
digestibility, 758A
feed intake, 758A
extract, 758A
N supplement, 1244NE
ensiled complete feed, 143S, 1901
formaldehyde, formic acid, 922
fungal growth, 532
Geotrichum, 1666
H. madis T. strain, 757A
grass legume, 1695
metabolism, 758A
nitrogen supplement, 1244NE
nonprotein N treated, 1666
nutrient recovery, 687
oatlage vs. barley-wheat, 758A
organic acids, 747A
potato-based, 1241NE
preserved, 922
production, health, 757A
propionic acid treated, 535
selenium review, 1561
sorghum digestibility, 135S, 761A, 762A
soybean meal, 1672
trace elements, 1538
urea, 196
wheat + N sources, 147S
whey, 196

SILOS

bunker, 1695
capacity, 219
horizontal, 1245NE
polybrom biphenyls, 947
stack, 1247NE

SIRES

birth weight, 724
crossbreds, 113
evaluation, 109, 773A, 1717, 1731, 1871
computerized, 774A
genetic, 774A
fertility heritability, 1245NE
grade cows, 754A
identification, 754A
matrix evaluation, 774A
performances, Canada, Mexico, U.S., Puerto Rico, 755A
predicted differences, 756A
progeny sex ratios, 1723
sons, 755A
pedigree, 773A
records, 1068
relationships, 774A, 1727, 1731, 1910, 1917
reproductivity, 1246NE
sampling, 1063
correlations, 1057
improvements, 1089
matings, 1083
problems, 1085
selection differentials, 1071
indices, 1239NE
summaries, 116, 233, 771A, 772A
traits screening, 1080
physiological, 1078
transferrin types, 1501
Guernsey, Jersey, 1503
Holsteins, 1504
transmitting ability, 1073, 1503, 1504
Virginia program, 141S

SKIM MILK

antibiotic binding, 941
coagulation, secondary phase, 478
copper from alloy, 1537
cholesterol distribution, 974
curd tension, 21
denaturation, 799A
dimutase superoxide, 796A
glucose oxidase, 1147
high temperature, 799A
hydrogen peroxide, 1146
lactose to acid, 1148
lactose-κ-casein complex, 790A
membrane lipolysis, 137S, 1519
methional evidence, 1609
nonprotein N, 20
enzymes immobilized, 19, 1117
phagocytosis, 1244NE
phospholipid, 1444
precultured, 1012
Pseudomonas proteases, 795A
rennin immobilized, 796A
sunlight, 1609
trace metals, 788A
ultrafiltration, 1002
volatiles parts per billion, 426

SOFT CHEESE

retentate composition, 1004
ultrafiltration, 1002

SOWS

radioactive estrogens, 43
steroid metabolites, 41

STARTERS

cholesterol biosynthesis, 790A
orotic acid, 790A
copper sensitivity, 1630
milk, high temperatures, 799A
L. bulgaricus, 787A
psychrotrophs, 1612
streptococci, 786A

STATISTICS

experimental type I error rates, 1374

STEERS

acid whey feed, 1688
amino acids from alfalfa, 374
bloat prevention, 767A
digestibility at 21, 32C, 1863
esterase activity, 563
feeding behavior, 748A
growth, 756A

STERILE MILK

emulsion stability, 800A
lysozyme heat stability, 835
proteases heat stability, 831

SWISS CHEESE

analysis, 648
bacteriophage in whey, 785A
continuous process, 1018
copper influence, 645, 1630
L. bulgaricus, 787A
microorganisms, 1630
modulus, 648

SYMPOSIA

American diet, 1751
calf rearing, 436
casein sequences, 574
cheesemaking continuous, 994
dairy sires, 1063
enzyme technology, 1117, 1739
digested energy, 602
digestive energy, 1151
management computerized, 217
reproduction, 246
milk protein processing, 977
milk synthesis, 1022
protein nutrition, 1164
trace elements, 1538, 1549

TRYPSIN

antioxidant, 1263

UNITED STATES

sire performance, 755A

VITAMINS

A, fluorometric analysis, 558
B-complex in cream, 791A
nicotinic acid metabolism, 775A
riboflavin, fluorescent light, 789A

WASHED CURD CHEESE

low-fat milk, 792A

WASTE DISPOSAL

dairy lagoons, 136S
Diplodia gossypine, cellulose, 1241NE
garbage feed, 1672

salmonella survival in feed, 149S, 765A
treatment microflora, 134S

WATER

antifungals, 669
emulsion stability, 1249
hardness, 331
nonsolvent, 297
stream quality, 145S

WHEY

ammoniated and fermented, 748A
annatto in dried, 1365
antibiotic binding, 941
bacteriophage inhibitor, 785A
Ca, Mg, P, 792A
components mol wt, 661
electrophoretograms, 658
gel filtration, 980, 989
Harland-Ashworth test, 797A
ice cream, 799A
mercury, 1785
nonprotein N, 1521
paper feed, 1677
permeates, 792A
process parameters, 799A, 978
protein denaturation, 496, 798A, 979
formation, 1048
enzymes, 1052
polymers, 662
rumen protected, 1841
serum, 797A
soluble, 782A, 798A
reverse osmosis, 799A
riboflavin destruction, 789A
sheep feed, 198, 1856
solids vapor sorption, 26
starters, 782A
supplement, 748A
ultrafiltration, 782A, 792A, 1794

YOGURT

spray-dried inoculated, 787A
tumor cells inhibited, 787A

ERRATA

Brandt et al. 57:1392. In Table 3 age of breed group Hx(S × H) should be 25.6.

Satter et al. 58:521. Manuscript received December 10, 1973.

Maubois and Mocquot. 58:1002. Figures should be interchanged with legends for Fig. 3 and 4. Figure in the lower right column on page 1002 should have legend Fig. 4.